

REMARKS

Applicants express appreciation to the Examiner for consideration of the subject patent application. This communication is in response to the Office Action mailed April 1, 2010, in which the following actions were taken:

(1) claims 1, 4, 10, 14, 16, 17, 20, 22, 26, 27, 29, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0169320 of Tomotake et al. (hereinafter “Tomotake”) in view of U.S. Patent No. 6,443,568 to Askeland et al. (hereinafter “Askeland”) and U.S. Patent No. 6,585,366 to Nagata et al. (hereinafter “Nagata”);

(2) claims 3, 12, 13, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of U.S. Patent No. 6,412,935 to Doumaux (hereinafter “Doumaux”);

(3) claims 5, 6, 15, 21, and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of U.S. Patent Publication No. 2002/0192003 of Koike et al. (hereinafter “Koike”);

(4) claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of U.S. Patent No. 6,450,632 to Tsang et al. (hereinafter “Tsang”);

(5) claims 31 and 38-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike and Nagata;

(6) claim 32 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike and Nagata and further in view of Askeland;

(7) claims 33, 34, 36, and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike, Askeland, and Nagata and further in view of Doumaux; and

(8) claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike, Nagata and Askeland and further in view of Tsang.

Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Claim Rejections - 35 U.S.C. § 103

Rejection over Tomotake in view of Askeland and Nagata

The Examiner has rejected claims 1, 4, 10, 14, 16, 17, 20, 22, 26, 27, 29, and 30 under 35 U.S.C. § 103 as being unpatentable over Tomotake in view of Askeland and Nagata.

In order to most succinctly explain why the claims presented herein are allowable, Applicants will direct the following remarks primarily to the independent claims 1 and 17 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable. Applicants submit that the cited references are not fairly combinable so as to support a *prima facie* case of obviousness against claims 1 and 17.

Independent claim 1 is directed to a system for printing durable ink-jet ink images, including offset media, an aqueous ink-jet ink having a pigment colorant and dispersed latex particulates, a fixer composition, and a calendaring device. The ink-jet ink is configured to be ink-jetted onto the offset media. The fixer composition includes a crashing agent that is reactive with a component of the ink-jet ink and is configured to be overprinted or underprinted on the offset media with respect to the ink-jet ink. The calendaring device is configured for applying pressure and heat to offset media once the ink-jet ink is ink-jetted thereon. The pressure is mechanical pressure applied at from 500 psi to 3000 psi, and the heat to be applied is from 20-90°C. The result is a printed image with a durability and waterfastness that is unexpected for aqueous ink-jet inks printed on offset media. See, e.g. Applicants' Declaration filed May 26, 2009.

Independent claim 17 is directed to a method of printing images on offset media, including ink-jetting an aqueous ink-jet ink having a pigment colorant and dispersed latex particulates onto offset media to form a printed image, underprinting or overprinting a fixer composition with respect to the ink-jet ink, applying pressure to the printed image such that a physical property of the printed images is altered by the pressure, and applying heat to the printed image. The heat applied is from 20-90°C and the pressure is mechanical pressure applied at from 500 to 3000 psi. As before, the fixer composition includes a crashing agent that is reactive with a component of the ink-jet ink. The result is a printed image with a durability and waterfastness that is unexpected for aqueous ink-jet inks printed on offset media.

Neither Tomotake nor Askeland teach a system including offset media, an aqueous ink-jet ink having a pigment colorant and dispersed latex particulates, a fixer composition, and a calendaring device for applying heat and pressure in the range required by claim 1. Tomotake and Askeland also fail to teach applying heat and pressure in the range required by the claims to an aqueous inkjet ink image printed on offset media as required by claim 17.

The Examiner has cited Nagata to provide a teaching of the temperature range required by the present claims. Applicants submit that there is no reason to combine the teaching of Tomotake and Nagata, as the references teach away from each other. Tomotake teaches that heat applied to the printed ink should be “as high as possible” short of that which would damage the recording medium, and recites a particular temperature range of 100 to 200 °C. Paragraph 0142. Askeland does not teach a particular level of heat. However, as Askeland teaches that the purpose of heating is to shorten print intervals, Applicants submit that Askeland suggests higher temperatures as well. See, e.g. col. 3, lines 58-63. Therefore, the teaching of Tomotake and/or Askeland would deter one skilled in the art from adopting the temperature range taught in Nagata.

Therefore, Applicants respectfully submit that claims 1, 4, 10, 14, 16, 17, 20, 22, 26, 27, 29, and 30 are allowable, and urge the Examiner to withdraw the rejection.

Rejection over Tomotake, Askeland, and Nagata in view of Doumaux

The Examiner has rejected claims 3, 12, 13, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of Doumaux. The deficiencies of the combination of Tomotake, Askeland, and Nagata with respect to the elements required by claims 1 and 17 are discussed above and incorporated here. As each of the rejected claims depends from one of claims 1 or 17, those deficiencies also apply to this rejection.

The Examiner has cited Doumaux to provide a teaching of the particulars of crashing agent recited in claims 3, 12, 13, and 19. However, there is no teaching or suggestion in Doumaux for combining the conflicting teachings of Nagata and Tomotake and/or Askeland. Furthermore, Doumaux is not directed to printing aqueous ink-jet inks on offset media. Rather, Doumaux teaches the use of porous or semi-porous media. See, e.g. col. 1, lines 41-42; col. 2, lines 35-52. Applicants have explained that the particular considerations involved in printing

with aqueous ink-jet ink on offset media are different from printing with other media, particularly porous media which is completely different from offset media. Porous media is designed to receive aqueous ink into pores, whereas offset media is typically very smooth and repellant to aqueous ink. The media types are quite opposite from one another.

In view of the above, Applicants respectfully submit that claims 3, 12, 13, and 19 are patentable over the cited references, and urge withdrawal of the rejection.

Rejection over Tomotake, Askeland, and Nagata in view of Koike

The Examiner has rejected claims 5, 6, 15, 21, and 28 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of Koike. The deficiencies of the combination of Tomotake, Askeland, and Nagata with respect to the elements required by claims 1 and 17 are discussed above and incorporated here. As each of the rejected claims depends from one of claims 1 or 17, those deficiencies also apply to this rejection.

The Examiner has cited Koike to provide a teaching of an overcoat composition comprising latex particulates as required by claims 5, 6, 15, 21, and 28. Applicants submit however, that there is no teaching or suggestion in Koike provides a reason for ignoring the conflicting teachings of Nagata and Tomotake and/or Askeland. Furthermore, Koike does not teach an overcoat composition for overprinting on a printed image as required by the present claims. Rather, Koike teaches a laminated product in which an image is printed on a recording material and then is laminated with a resin image protective layer. Paragraphs 0048, 0061-0064. An overcoat layer can then be disposed on the image protective layer rather than on the printed image. Paragraph 0071. Therefore, Applicants submit that the method and associated apparatus in Koike does not provide the arrangement of elements and steps required by the present claims.

In view of the above, Applicants respectfully submit that claims 5, 6, 15, 21, and 28 are patentable over the cited references, and urge withdrawal of the rejection.

Rejection over Tomotake, Askeland, and Nagata in view of Tsang

The Examiner has rejected claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Askeland and Nagata and further in view of Tsang. The deficiencies of the combination of Tomotake, Askeland, and Nagata with respect to the elements required by claim

1 are discussed above and incorporated here. Those deficiencies also apply to the rejection of claim 11, which depends from claim 1.

The Examiner has cited Tsang to provide a teaching of cationic polymer crashing agents recited in claim 11. However, Tsang also does not provide any reason for combining the conflicting teachings of Nagata and Tomotake and/or Askeland. Applicants are not the first to use crashing agents *per se*, but rather, claim the inventive combination set forth in the claims. Therefore, Applicants submit that the cited combination of references fails to present a *prima facie* case of obviousness against claim 11. Withdrawal of the rejection is respectfully requested.

Rejection over Tomotake in view of Koike and Nagata

The Examiner has rejected claims 31 and 38-41 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike and Nagata.

In order to most succinctly explain why the claims presented herein are allowable, Applicants will direct the following remarks primarily to the independent claim 31 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

Independent claim 31 is directed to a system for printing durable ink-jet ink images. The system includes offset media, an aqueous ink-jet ink having a pigment colorant and dispersed latex particulates, an overcoat composition, and a calendaring device. The ink-jet ink is configured to be ink-jetted onto the offset media. The overcoat composition includes a liquid vehicle having latex particulates dispersed therein and is also configured to be overcoated with respect to the ink-jet ink. The latex particulates are present in the overcoat composition at from 0.1 wt% to 15 wt%. The calendaring device is configured for applying pressure and heat to offset media once the ink-jet ink is ink-jetted thereon. The pressure is mechanical pressure applied at from 500 psi to 3000 psi, and the heat to be applied is from 20-90°C.

Applicants note that the present rejection is based on the combination of Tomotake with Nagata, where the Examiner has cited Nagata to provide a teaching of the temperature range required by the present claims. As discussed above, Applicants submit that the references teach away from each other. That is, Tomotake teaches that heat applied to the printed ink should be “as high as possible” short of that which would damage the recording medium, and recites a particular temperature range of 100 to 200 °C. Paragraph 0142. Therefore, the teaching of

Tomotake would deter one skilled in the art from adopting the temperature range taught in Nagata. As also discussed above, there is no teaching in Koike that provides a suggestion for combining the conflicting teachings of Nagata and Tomotake. Furthermore, Koike does not teach an overcoat composition for overprinting with respect to the ink-jet ink as required by the present claims.

In view of the above, Applicants respectfully submit that claims 31 and 38-41 are patentable over the cited references, and urge withdrawal of the rejection.

Rejection over Tomotake, Koike, and Nagata in view of Askeland

The Examiner has rejected claim 32 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike and Nagata and further in view of Askeland. The deficiencies of the combination of Tomotake, Koike, and Nagata with respect to the elements required by claim 32 are discussed above and incorporated here. Those deficiencies also apply to the rejection of claim 32, which depends from claim 31.

As noted above, the teaching of Askeland does not remedy this deficiency. Rather, Askeland more likely suggests high temperatures such as taught in Tomotake. Therefore, the teaching of Askeland would also deter one skilled in the art from adopting the temperature range taught in Nagata.

In view of the above, Applicants respectfully submit that claim 32 is patentable over the cited references, and urge withdrawal of the rejection.

Rejection over Tomotake, Koike, Nagata, and Askeland in view of Doumaux

The Examiner has rejected claims 33, 34, 36, and 37 under 35 U.S.C. § 103 as being unpatentable over Tomotake in view of Koike, Askeland, and Nagata and further in view of Doumaux. The deficiencies of the combination of Tomotake, Askeland, Koike, and Nagata with respect to the elements required by claim 31 are discussed above and incorporated here. As each of the rejected claims depends from claim 32, those deficiencies also apply to this rejection.

The Examiner has cited Doumaux to provide a teaching of the particulars of crashing agent recited in claims 33, 34, 36, and 37. However, there is no teaching in Doumaux that provides a suggestion or motivation for combining the conflicting teachings of Nagata and the

other references. Furthermore, for the reasons cited above, Applicants submit that is nonanalogous art and therefore inappropriate to a case of obviousness of the present claims.

In view of the above, Applicants respectfully submit that claims 33, 34, 36, and 37 are patentable over the cited references, and urge withdrawal of the rejection.

Rejection over Tomotake, Koike, Nagata, and Askeland in view of Tsang

The Examiner has rejected claim 35 under 35 U.S.C. § 103(a) as being unpatentable over Tomotake in view of Koike, Nagata and Askeland and further in view of Tsang. The deficiencies of the combination of Tomotake, Koike Askeland, and Nagata with respect to the elements required by claim 31 are discussed above and incorporated here. Those deficiencies also apply to the rejection of claim 35, which depends from claim 31.

The Examiner has cited Tsang to provide a teaching of cationic polymer crashing agents recited in claim 11. However, Tsang does not provide a teaching or suggestion for combining the conflicting teachings of Nagata and the other cited references, particularly in light of the entirety of the claims presented with all of their limitations. Therefore, Applicants submit that the cited combination of references fails to present a *prima facie* case of obviousness against claim 35. Withdrawal of the rejection is respectfully requested.

CONCLUSION

In light of the above, Applicants respectfully submits that the pending claims are in condition for allowance. Therefore, Applicants requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after resolution of the issues discussed herein, the Examiner is strongly encouraged to call Gary Oakeson at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this communication to Deposit Account No. 08-2025.

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Respectfully submitted,

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